

CLAIMS

WHAT IS CLAIMED IS:

1. A plug-in connector for connecting and transmitting signals in a form of light beams from a circuit board to a back plane, wherein the plug-in connector comprises:

a) means for transmitting optical signals into the plug-in connector;

b) at least one mirror coupled to said transmitting means for deflecting light beams at an approximately 90° angle in the plug-in connector;

c) a lens system disposed adjacent to said mirror and coupled to said transmitting means, for coupling the light beams into the plug in connector.

2. The plug-in connector as in claim 1, wherein said means for transmitting optical signals comprises a plurality of glass fiber lines.

3. The plug-in connector as in claim 1, wherein said means for transmitting optical signals is a plurality of plastic polymer lines.

4. The plug-in connector as in claim 1, wherein said means for transmitting optical signals comprises a plurality of prisms, wherein said light beams always run within a same optical medium within said plug-in connector.

5. The plug-in connector as in claim 1, wherein the plug-in connector is formed as two symmetrical halves having a center plane in a plane for transmitting optical signals.

6. The plug-in connector as in claim 1, further comprising a plug in coupler for coupling said plug-in connector to the circuit board.

7. The plug-in connector as in claim 1, further comprising a clip for coupling said plug-in connector to the circuit board.

8. The plug-in connector as in claim 1, further comprising a plug in coupler for coupling said plug-in connector to the back plane.

9. The plug-in connector as in claim 1, further comprising a clip for coupling the plug-in connector to the back plane.

10. The plug-in connector as in claim 1, further comprising a plurality of standardized MT plugs having a plurality of optical ribbon cables arranged on said back plane.

11. The plug-in connector as in claim 1, further comprising a light seal disposed in an in-coupling point of the optical signal into the plug-in connector.